

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Wholesale Competition in Regions)
with Organized Electric Markets)

Docket Nos. RM07-19-000
and AD07-7-000

AFFIDAVIT OF EDWARD BODMER

I.

INTRODUCTION

1. I am Edward Bodmer. I provide financial and economic consulting services and teach professional development courses in an assortment of finance and modeling topics throughout the world. My consulting activities include developing project finance, corporate valuation and simulation models; providing expert testimony on financial and economic issues to regulatory agencies; and advisory services to support merger and acquisition projects. I am a former Vice President of the First National Bank of Chicago, where I directed analysis of energy loans and created financial modeling techniques used in advisory projects. A more complete description of my qualifications is included as Exhibit No. EB-1.

2. I have worked on a number of projects in recent years that related to evaluation of restructured electricity markets and the financial performance of entities participating in those markets. These projects include:

- A February 2007 report on the financial performance of all major companies that sell energy into the markets of the PJM Interconnection. The report, which was commissioned by the American Public Power Association (“APPA”), is discussed below.
- An update of financial statistics presented in the February 2007 report that are presented in this affidavit in which I have computed more current

financial statistics for five of the largest companies that sell power into PJM, the four merchant companies that sell into PJM and the regulated companies used as a basis for comparison.

- A valuation of the value of the Byron Nuclear power plant developed in the context of a property tax proceeding in Ogle County Illinois.
- A study of the financial performance of Exelon Corporation that was presented in testimony before the Illinois Commerce Commission on behalf of the City of Chicago, the Cook County States Attorney and the Citizens Utility board.
- A report prepared for the Asian Development Bank that tabulated the effects of deregulated markets on the financial performance of investors in new capacity around the world.
- Testimony in state regulatory proceedings that measured the cost of capital for electricity companies.

3. I have been asked by the American Public Power Association (“APPA”) to summarize my recent research in this affidavit regarding the financial performance of certain companies that sell power into the organized markets run by the PJM Interconnection LLC (“PJM”), and to attest to its validity. APPA believes that my research findings are relevant to the arguments it is making to the Commission in its comments in the above-noted dockets, to which this affidavit is attached.

II.

PURPOSE OF THE AFFIDAVIT

4. The purpose of this affidavit is to summarize financial research I have conducted involving the financial performance of certain companies owning generating plants that sell power into RTO markets. My research demonstrates that wholesale markets in RTO regions have failed to produce financial outcomes that are consistent with the operation of an efficient competitive market. More specifically, my analysis shows that companies who own

generating plants and sell power into the PJM market have experienced anomalous financial outcomes that would not occur in efficient competitive markets.

5. The transfer of wealth from consumers to investors that has resulted from the development of RTO markets and implementation of retail-access regimes is demonstrated through analyzing the financial returns earned by a subset of five PJM Companies for which the holding company has continued to own generation capacity that was originally constructed and financed under a cost-of-service regime -- Exelon Corporation (“Exelon”), Constellation Energy Group, Inc. (“Constellation” or “CEG”), Public Service Enterprise Group, Inc. (“PSEG”), PPL Corporation (“PPL”) and Allegheny Energy Inc. (“Allegheny”). The profitability of these five “PJM Companies” contrasts with the return earned by other corporations that have remained subject to cost-of-service regulation and it contrasts with the financial performance of companies that have constructed or purchased generating plants after the cessation of retail cost-of-service regulation of generation in the PJM region. The latter set of “merchant” companies purchased plants from formerly regulated companies through a bidding process or through construction of new generation. These companies include Mirant Corporation (“Mirant”) NRG Energy (“NRG”), Midwest Generation, LLC. (“Midwest”) and Reliant Energy, Inc. (“Reliant”). The first group of five companies has experienced supra-competitive profits resulting from the benefits of previous cost-of-service regulation. Although the second group of four merchant companies has recently benefited from high prices in PJM, over the tenure of deregulation, they have experienced severe financial problems. The volatility of financial results for these four merchant companies and similar companies all around the world has increased costs of market entry in RTO organized markets.

6. The remainder of this affidavit explains how I have computed financial statistics for the companies that sell power into PJM and presents information that underlies my conclusion. I begin by describing the sources of information that I gathered in making my analysis and the mechanics of the profitability ratio calculations. Second, I present selected financial data that illustrate the scale of the profits earned by the five companies that sell power into PJM and who own plants that were constructed and financed under cost-of -service regulation. Third, I summarize the financial performance of the group of four merchant companies that did not have the benefit of direct ratepayer support through cost-of-service pricing when construction of purchase of their generating plants were financed. In the final section I explain why the financial results are inconsistent with efficient competitive markets.

III. DATA SOURCES AND METHODOLOGY

7. The primary basis for my analysis is an update to a report I prepared in February 2007 that was commissioned by APPA. I understand that APPA previously submitted this report, entitled “The Electric Honeypot: The Profitability of Deregulated Electric Generation Companies,” as an attachment to its March 13, 2007 Post Technical Conference Comments filed in Docket No. AD07-7-000; hence, I have not attached the report to this affidavit. In the February report, my assignment was to examine financial data for the thirteen companies with the largest volume of sales into the PJM market. I completed my assignment through comparing returns earned by companies selling power into the deregulated market with the returns earned by companies that have continued to be regulated under a cost-of-service regulation regime. When evaluating financial

returns, I was careful to adjust the data to assure comparisons are made with analogous accounting conventions; I computed holding period returns to shareholders using different starting dates to remove possible bias from selection of time periods; I used external data from sources such as the Value Line Investment Survey where possible; and I computed returns with and without debt leverage to assure that distortions were not occurring because of different financial policies. I also prepared a detailed technical appendix that describes the mechanics of my calculations and documents financial data for each company. When presenting my results in the report, I listed statistics for each holding company similar to statistics shown in Tables 1 through 9 below and I developed case studies that illustrated how policy issues affected the profitability selected companies. Finally, in addition to computing profitability statistics for holding companies on an aggregate basis, I reported returns on a business-line basis.

8. My analysis of the profitability of companies that sell power into PJM relative returns earned by companies that have remained subject to cost-of-service regulation was the result of an intensive data-gathering effort that included:

- Retrieving SEC 10-K reports for each company for up to twelve historic years and then extracting financial statement data, data for individual business-lines, capacity statistics and other information.
- Gathering historic daily stock price, dividend and stock split data for each PJM company and for twenty-one companies that have remained subject to cost-of-service regulation. I entered the stock price and dividend data into a series of spreadsheets so as to compute rates of return earned by shareholders for alternative holding periods.
- Acquiring historic and projected data from Value Line Investor Services and comparing the return on equity statistics with those computed directly from the SEC 10-K forms.
- Extracting information about profit outlooks and other issues from presentations made by each company to investor analysts. In particular, I reviewed comments made with respect to RTO markets, such as the

statements with respect to the PJM “Reliability Pricing Model (“RPM”) settlement.

- Collecting prospective earnings estimates made by financial analysts that are reported in Finance.Yahoo.com.
- Pulling together various energy and capacity price statistics from PJM and evaluating how the spot prices affected the profitability of alternative types of generating plants.

9. In analyzing all of the financial data so as to compute profits realized by

companies selling power into PJM, I recognized that no single profit measure can be used to capture all of the economic impacts which result from the restructuring of RTO markets. Accounting changes and write-offs, mergers and acquisitions, changes in capital structure policy, and bankruptcy make the analysis more complex than a simple tabulation of return on equity statistics. Further, the use of return on equity and return on investment to draw implications about economic profit has been criticized because of the manner in which depreciation affects investment and because of changes in returns that occur over the lifetime of an asset. Given these issues, rather than only concentrating on return on equity, I computed a series of different financial statistics to evaluate the profits earned by different sellers of power. These statistics included:

- Holding period returns realized by shareholders computed through calculating the internal rate of return on cash flow that would be earned from purchasing a share of stock and receiving dividends over a specified period of time before reselling the stock;
- Returns on equity computed from the reported net income and the common-equity balance (both for holding companies and for separate business-lines);
- Returns on shareholders’ equity reported by the Value Line Investment Survey;
- Returns on equity computed with adjustments to equity capital that exclude goodwill, accumulated other comprehensive income, and plant

write-offs which occurred because accounting methods changed after generation was deregulated;

- Returns on invested capital, calculated through dividing after-tax operating income before interest expense by invested capital (which is equal to debt plus adjusted equity minus cash);
- Cash flow to invested capital, computed through dividing Earnings Before Interest, Taxes and Depreciation (“EBITDA”)—a measure of cash flow—by invested capital;
- Cash flow to equity, computed through dividing net income plus depreciation and deferred taxes by the equity balance adjusted for goodwill, write-offs and other comprehensive income; and
- Market-to-book ratios, computed through dividing share price by book value per share, where the book value of common equity per share is adjusted to exclude goodwill, accumulated other comprehensive income and other items listed above.

IV.

FINANCIAL ANALYSIS OF FIVE PJM COMPANIES

10. The following list summarizes financial statistics for the five PJM companies—Exelon, Constellation, PSEG, PPL and Allegheny—that sell power into PJM and own plants which were originally financed with ratepayer support. These statistics illustrate the amount by which prices paid by ultimate consumers in PJM are higher than those prices which would have existed under cost of service regulation:

- The average return on equity earned in 2006 as reported by Value Line Investor Services for the five companies was 16.5 percent, and the average return on adjusted equity was 16.8 percent. By comparison, the average earned return on equity for a sample of nineteen regulated distribution companies is 9.2 percent.¹

¹ The regulated companies used in comparing return on equity were selected by evaluating all utility companies that are covered by Value Line Investment Survey and then excluding companies with significant non-utility operations and/or companies that have been involved in mergers and/or companies that had significant regulatory disallowances.

- The median holding period return earned by investors over the four year period from mid-2003 through mid-2007 for Exelon, Constellation, PSEG, PPL and Allegheny was 27.1 percent, and it was 15.9 percent over the ten-year period 1998 through 2007. The comparative holding period returns were 8.6 percent and 7.4 percent for the sample of twenty-one regulated companies². The S&P 500 earned 12.0 percent over the four-year holding period and 3.4 percent over the ten-year period.
- In mid-2007, the average market-to-book ratio was 3.6 for the five PJM companies, while the analogous number for regulated distribution companies was 1.75.
- The median prospective return on equity computed from future earnings guidance was substantially higher than the historic return on equity for the PJM Companies. The median returns on equity are projected to be 18.5 percent, 18.4 percent and 18.7 percent in 2007, 2008 and 2009 respectively.
- The average return on equity for the U.S. generating segment of the five companies was higher than the aggregate holding company return. It was 20.5 percent for the year 2006 on an unadjusted basis, and 17.5 percent after making adjustments for write-offs, goodwill, accumulated other comprehensive income and other items.
- Since the announcement of the RPM settlement in September 2006, the average holding period return from increased stock prices and dividends to the five PJM companies was 50 percent, while the regulated companies realized a return of 11.50 percent. Each of the PJM Companies has touted the shareholder benefits of the increased prices that will result from implementing the RPM.
- In dollar terms, the accumulated investor profits measured from holding period returns relative to returns earned by regulated companies ranges between \$44 billion and \$67 billion. (The difference between the two figures results from different periods used in computing returns.)
- The accumulated market capitalization for Exelon, Constellation, PSEG, PPL and Allegheny implies a premium above book value far in excess of the market to book premiums realized by regulated companies. This surplus market-to-book ratio implies an aggregate wealth surplus to investors of \$64 billion relative to regulated companies (even though

² The regulated companies used in comparing holding period returns were selected by evaluating all utility companies with available stock market data from Finance.Yahoo.com and then excluding companies using the same criteria as companies were excluded in the return on equity comparison.

regulated companies themselves have experienced a high market-to-book ratio of 1.75.³⁾

11. The final two points in the above list measure the aggregate harm to retail electric consumers that has occurred from selling power in the PJM RTO versus dollar amounts that would have been paid had cost of service regulation remained in place.⁴ To put the \$44–\$76 billion of wealth generation relative to regulated companies in perspective, the amount of money realized for these five PJM companies exceeds the estimates of the aggregate surplus cost of power in 2000–2001 as a result of the California crisis.⁵

12. The supra-competitive profits earned by the five generation companies that sell power into PJM from plants which were originally financed with ratepayer support are demonstrated by analysis of holding period returns. Analysis of holding period returns is important because investors ultimately care about the cash that goes into their pockets, not return-on-investment figures computed from accounting information. Further, holding period returns incorporate both historic performance and investors' expectations of future returns. Computation of holding period returns requires adjustments for stock splits and the timing of dividends, but it does not require modification for write-offs, goodwill or other accounting adjustments.

³ Since a market to book ratio of one indicates that a company is earning more than its cost of capital, the comparison with regulated companies does not measure the full extent of the returns generated above a pure competitive outcome in which companies earn their cost of capital.

⁴ The dollar amounts can be considered wealth transfers since the PJM companies have not realized efficiencies from investing in new plants and since the operating costs of the PJM companies are similar to the operating costs of companies that have remained subject to cost of service regulation.

⁵ The cost of wholesale power in California increased by about \$24 billion,

13. Given the manner in which holding period returns can be affected by timing assumptions, I have computed the statistic for different time periods. In my opinion, holding period returns over the four years since July 2003 provide the most effective indication of how RTO markets have affected profitability. Longer periods of time than four years are less effective in providing a profit picture from the PJM RTO because many of the PJM Companies were involved in unprofitable trading operations that negatively affected stock prices before 2002. The longer time horizons are also affected by very high equity valuations present in the late 1990s. The holding period returns to PJM Companies are shown in Figure 1 and Figure 2 for a ten-year and four-year holding period.

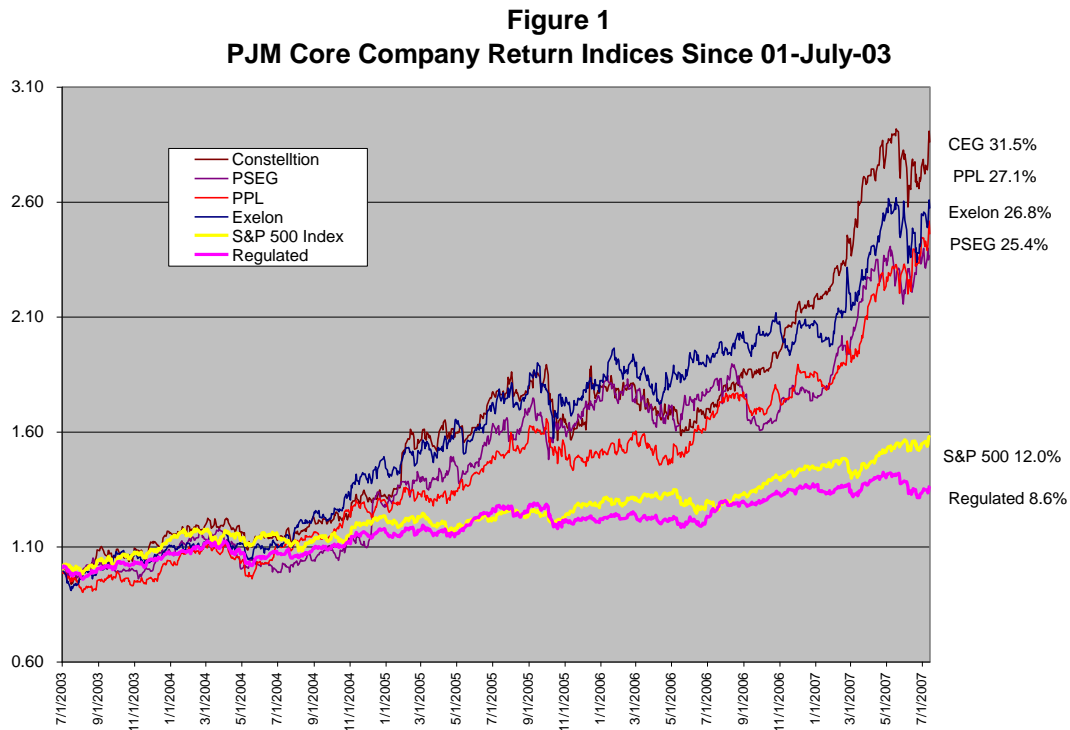
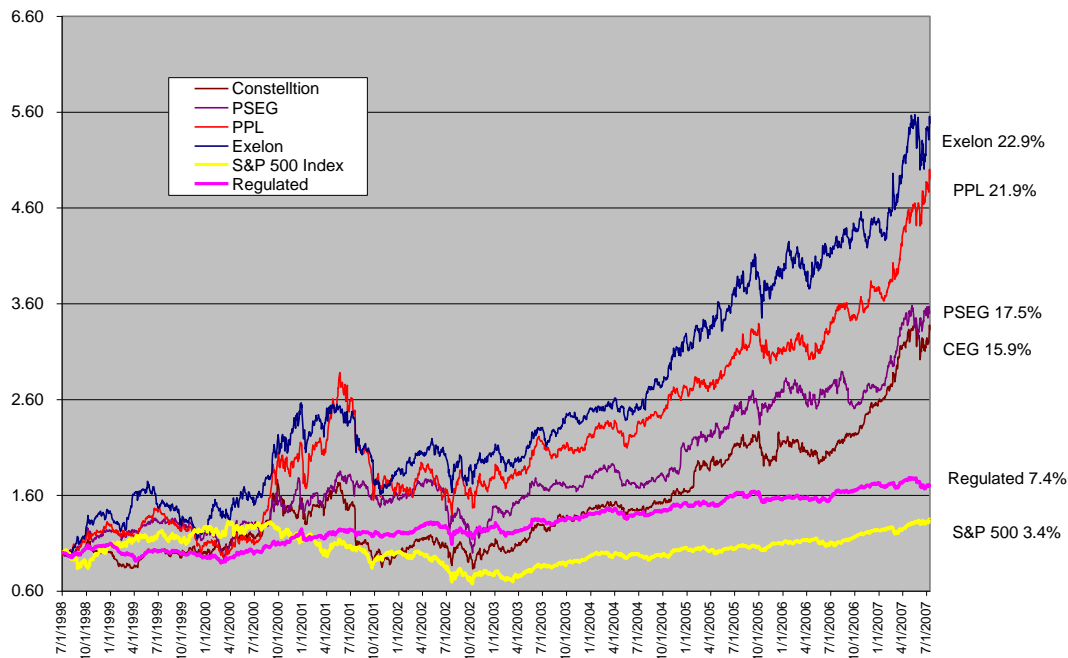


Figure 2
PJM Core Company Return Indices Since 01-July-98



14. The returns shown in the above charts have been particularly high since the fall of 2006. This is explained in part by the Commission’s approval of the RPM settlement and results of the auction in April 2007. Statements made by the PJM Companies confirm the positive implications of the RMP settlement. For example, in a report to investors Exelon stated: “FERC’s adoption of the settlement proposal of September 2006 is expected to have a favorable impact for owners of generation facilities, and particularly for such facilities located in constrained zones.”⁶ In a presentation to investment analysts, Constellation labeled RPM and increasing capacity prices as a “growth driver” and stated that the Commission policy and market conditions

⁶ Exelon 10-Q Report filed with the SEC for the period ended March 31, 2007, page 35.

could “cause upward pressure from current forwards.”⁷ PSEG called RPM a “favorable market design” and forecast an increase in income of \$75–\$105 million from higher capacity prices in 2007.⁸ Allegheny in yet another presentation stated that RPM would potentially provide “significant benefits to Allegheny as POLR contracts expire.”⁹

15. Holding period returns for alternative start dates are summarized in the table below for the PJM Companies, the sample of regulated companies, and the overall stock market as measured by the S&P 500 index. Over a four-year holding period, all of the PJM Companies experienced a holding period return far above the “pure play” regulated company sample.

Table 1				
Summary of Holding Period Returns				
	10-Year	7-Year	4-Year	1-Year
Regulated Portfolio	7.40%	7.00%	8.60%	11.50%
Standard and Poor's 500	3.40%	3.80%	12.00%	20.60%
Core PJM				
Exelon	22.90%	16.60%	26.80%	33.80%
Constellation Energy	15.90%	16.30%	31.50%	74.00%
PSEG	17.50%	13.90%	25.40%	36.10%
PPL	9.70%	12.90%	27.10%	54.70%
Allegheny	6.90%	3.00%	60.40%	47.40%

16. The holding period returns earned by PJM companies relative to regulated companies shown in Table 1 can be translated into dollar terms. Through comparing returns for the regulated sample with returns earned by PJM companies, relative wealth transfers from retail electric consumers to investors can be assessed. I have made this calculation by tabulating the total value of shares outstanding today and then deriving the implied value of the investment in those shares at the beginning of the period from the

⁷ Constellation presentation at the Deutsche Bank and Conference, May 2007,

⁸ PSEG presentation to California Investor Meetings, June 25-27, page 40.

holding period returns. Once I calculated the beginning and ending aggregate market values, I compared the change in market value for the five PJM Companies with the change in value for regulated companies. This amount gauges the surplus dollar value earned by PJM investors relative to the dollar amounts that would have been earned under cost-of-service regulation

17. To illustrate my calculation, consider the case of a single investor who owned one share of Exelon in July 1998, which at the time was worth \$14.78. Including dividends re-invested in Exelon, that investor would have accumulated \$116.20 in mid-2007. By contrast, if the investor had made the same \$14.78 investment in a portfolio of shares of regulated utility companies, the investment would be worth \$30.18 in mid-2007. The difference of \$86.02 (\$116.2 minus \$30.18) can be multiplied by the total amount of Exelon shares outstanding in 1998 to gauge the profits generated from investment in Exelon relative to profits that would have been realized from the regulated utility investment. My calculations of the aggregate benefits received by investors in the five PJM Companies are shown in Table 2, Table 3 and Table 4 for holding periods of four years, seven years and ten years respectively.

Table 2 Earnings Relative to Regulated Companies Measured From Four-Year Holding Period Returns Dollars and Shares in Millions										
	Number of Shares	Stock Price	Market Capital	Holding Period	Holding Period Return	Start Market Capital	Accum. Dollar Return	Reg. Return	Accum Dollar Regulated	Surplus Value Realized
Exelon	673	82.05	55,219.65	4	26.80%	21,360.76	33,858.89	8.60%	29,712.3	25,507.37
Constellation	181	94.21	17,052.01	4	31.50%	5,702.60	11,349.41	8.60%	7,932.2	9,119.84
PSEG	266	91.18	24,253.88	4	25.40%	9,808.24	14,445.64	8.60%	13,643.0	10,610.86
PPL	386	49.18	18,983.48	4	27.10%	7,274.34	11,709.14	8.60%	10,118.4	8,865.05
Allegheny	166	55.87	9,274.42	4	60.40%	1,401.10	7,873.32	8.60%	1,948.9	7,325.52
Total										61,428.66

(footnote continued from previous page)

⁹ Allegheny presentation at the Wall Street Access Conference, March 28-29, 2007, page 19.

Table 3 Earnings Relative to Regulated Companies Measured From Seven-Year Holding Period Returns Dollars and Shares in Millions										
	Number of Shares	Stock Price	Market Capital	Holding Period	Holding Period Return	Start Market Capital	Accum. Dollar Return	Reg. Return	Accum Dollar Regulated	Surplus Value Realized
Exelon	673	82.05	55,219.65	7	16.60%	18,845.33	36,374.32	7.00%	30,261.5	24,958.16
Constellation	181	94.21	17,052.01	7	16.30%	5,925.40	11,126.61	7.00%	9,514.9	7,537.11
PSEG	266	91.18	24,253.88	7	13.90%	9,752.48	14,501.40	7.00%	15,660.4	8,593.53
PPL	386	49.18	18,983.48	7	12.90%	8,119.29	10,864.19	7.00%	13,037.8	5,945.67
Allegheny	166	55.87	9,274.42	7	3.00%	7,540.95	1,733.47	7.00%	12,109.1	(2,834.70)
Total										44,199.77

Table 4 Earnings Relative to Regulated Companies Measured From Ten-Year Holding Period Returns Dollars and Shares in Millions										
	Number of Shares	Stock Price	Market Capital	Holding Period	Holding Period Return	Start Market Capital	Accum. Dollar Return	Reg. Return	Accum Dollar Regulated	Surplus Value Realized
Exelon	673	82.05	55,219.65	10	22.90%	7,023.84	48,195.8	7.40%	14,342.3	40,877.39
Constellation	181	94.21	17,052.01	10	15.90%	3,898.89	13,153.1	7.40%	7,961.3	9,090.71
PSEG	266	91.18	24,253.88	10	17.50%	4,835.07	19,418.8	7.40%	9,872.9	14,380.97
PPL	386	49.18	18,983.48	10	9.70%	7,521.59	11,461.9	7.40%	15,358.6	3,624.85
Allegheny	166	55.87	9,274.42	10	6.90%	4,758.93	4,515.5	7.40%	9,717.5	(443.03)
Total										67,530.88

18. In evaluating the financial performance of companies that sell power into RTO markets relative to companies that have remained regulated on a cost-of-service basis, I have computed a series of different statistics that measure return on investment from financial statement data. The first statistic I compute is the earned return on equity, since return on equity is the foundation for rate setting of regulated companies. The return on investment data presented below are closely related to the holding period returns presented above, since higher profitability is what ultimately drives higher stock prices. Interpreting rates of return on investment computed from financial information can be problematic, however, because of reliance on accounting data to measure profit and equity investment. For example, non-recurring write-offs and changes in accounting policy affect the measurement of profit included in the numerator of the return calculation. Further, accounting adjustments for goodwill, accumulated other

comprehensive income, and write-offs can distort the investment base that is the denominator in the accounting return calculations. Different capital structure choices, depreciation rates, fresh-start accounting after bankruptcy and other items also can affect the standard accounting measures of profit.

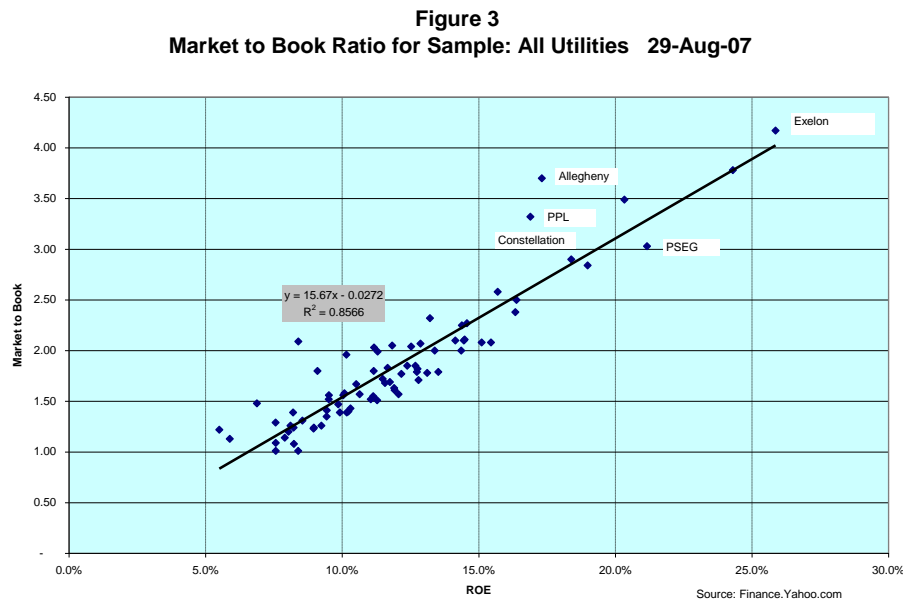
19. In Table 5 I have summarized return on investment statistics for the five PJM companies. This table shows both the 2006 ratio and the five year average over the 2002-2006 period. For each measure, the 2006 returns on equity have been above 15%, far in excess of estimates of cost of equity capital made by investment banks. (Cost of capital estimates are discussed in the February 2007 report.)

Table 5 Consolidated Return on Investment for PJM Companies												
	Return on Equity Unadjusted		Return on Equity Adjusted		Return on Equity Value Line		Return on Invested Capital		EBITDA to Invested Capital		Cash Flow to Equity Capital	
	2006	5-Yr. Avg.	2006	5-Yr. Avg.	2006	5-Yr. Avg.	2006	5-Yr. Avg.	2006	5-Yr. Avg.	2006	5-Yr. Avg.
Core PJM Companies												
Exelon	24.9%	21.2%	17.9%	17.8%	23.7%	17.8%	13.3%	9.3%	22.1%	19.5%	17.9%	30.2%
Constellation Energy	15.7%	13.2%	12.9%	13.6%	14.8%	11.8%	11.3%	7.6%	24.5%	18.4%	29.4%	28.4%
PSEG	11.1%	14.2%	15.4%	14.8%	11.1%	16.1%	8.5%	8.2%	20.2%	18.5%	25.7%	26.6%
PPL	18.1%	19.4%	18.1%	19.2%	17.3%	17.6%	9.4%	9.5%	13.3%	13.1%	26.9%	43.0%
Allegheny	16.9%	-4.4%	19.7%	3.3%	15.4%	2.1%	9.4%	4.9%	19.6%	12.5%	43.6%	22.0%
Median	16.9%	14.2%	17.9%	14.8%	15.4%	16.1%	9.4%	8.2%	20.2%	18.4%	26.9%	28.4%
Average	17.3%	12.7%	16.8%	13.7%	16.5%	13.1%	10.4%	7.9%	19.9%	16.4%	28.7%	30.0%

20. In addition to computing these consolidated returns on equity for the PJM Companies, I have calculated business-line returns, the returns on invested capital and prospective returns derived from earnings-guidance estimates. These calculations are included in the February Report, but are not presented here. The prospective returns and the returns to the generation business-line are even higher than the returns shown in Table 5. These return on investment statistics demonstrate that companies with the advantage of ratepayer financing of existing generation assets have been able to realize high profits. By contrast, the return statistics presented in Table 8 and Table 9 below show that companies without this head start have generally performed poorly.

21. An alternative way to compute the wealth transfers between consumers and investors that have resulted from RTO restructuring is to evaluate the market-to-book ratio for PJM companies, compared with the market-to-book ratios that would be implied had returns been equal to the cost of capital. Market-to-book ratios and forward returns on equity extracted from the Finance.Yahoo.com website are shown for the utility industry on Figure 3 below. (In this graph the market-to-book ratio for each company is taken directly from the reported balance sheet and share price data and thereby does not include any adjustments for goodwill, write-offs or other factors.)

22. Returns on equity shown in Figure 3 are computed from forward earnings-per-share (“EPS”) estimates reported on the Finance.Yahoo.com website while book-value-per-share calculations are derived from the current equity balance, projected earnings and projected dividends per share. Figure 3 demonstrates that the PJM Companies realize among the very highest market-to-book ratios in the industry.



23. The aggregate transfers of wealth between consumers and investors resulting from deregulation and RTO markets relative to cost-of-service regulation can be computed from market-to-book ratio statistics. To make this calculation I have first computed the difference between the market-to-book ratio for each of the five PJM Companies versus an alternative market-to-book ratio benchmark computed from the average market-to-book ratios of the regulated company sample. After calculation this difference in market-to-book value, the excess or deficit market-to-book value is then multiplied by each company's current adjusted book equity value to measure the dollar amount of excess returns.

24. My analysis of the surplus value to investors for the five PJM companies relative to regulated companies using the market-to-book value is shown in Table 6. This table uses book values per share that are adjusted for goodwill, write-offs and other items per the discussion above, and it uses the average market-to-book value for regulated companies as a benchmark for determining the surplus value. (The adjustment for write-offs and other factors reduces the measured surplus value to PJM investors.) Table 6 shows that the aggregate wealth transfer relative to regulated cost-of-service is more than \$64 billion. Because a market to book ratio of 1.75 is used for regulated companies, the \$64 billion shown in Table 6 reflects the fact that investors in regulated companies have realized returns above their cost of capital as a result of relatively generous cost-of-service regulation. (This issue is discussed in more depth in the February 2007 Report.)

Table 6 Value Received by PJM Investors versus Regulated Investors Measured using Market to Book Ratio									
	Shares in Millions	Adjusted Book Equity (\$ Millions)	BV/Share Adjusted	BV/Share Unadjusted	Share Price in July 2007	Unregulated Market to Book Ratio	Theoretical Market to Book Value	Market to Book Difference	Excess Value to Un- regulated (\$ Millions)
Core PJM Companies									
Exelon	673.00	11,297	16.79	13.89	82.05	4.89	1.75	3.14	35,449.78
Constellation Energy	181.00	6,055	33.45	27.57	94.21	2.82	1.75	1.07	6,455.24
PSEG	266.00	7,950	29.89	23.98	91.18	3.05	1.75	1.30	10,340.71
PPL	386.00	6,354	16.46	11.62	49.18	2.99	1.75	1.24	7,864.35
Allegheny	166.00	3,014	18.16	10.34	55.87	3.08	1.75	1.33	3,999.48
Total/Average		34,671			124,783	3.60			64,109.56

25. When using market-to-book ratios to compute surplus dollar amounts realized by the PJM Companies, it is theoretically more appropriate to use 1.0 as a benchmark rather than the 1.75 applied in Table 6. Efficient financial markets imply that the market to book ratio is driven by cash flows relative to their risk divided by the book equity balance. Further, it is simple to demonstrate that a market-to-book ratio of 1.0 means a company is earning its cost of capital. (Explanations of market values exceeding book value that are driven by factors other than cash flow realized by equity holders assume that financial markets are not driven by cash flows.) Use of a benchmark of 1.0 rather than 1.75 is justified by the fact that if an investment earns exactly its cost of capital, then the present market value of the investment will be just equal to the original amount of equity investment recorded on the balance sheet. Table 7 shows that applying a benchmark market-to-book ratio of 1.0 implies a wealth transfer from consumers to investors of \$90 billion for the five PJM companies.

Table 7 Value Received by PJM Investors versus 1.0 Market to Book Ratio									
	Shares in Millions	Adjusted Book Equity (\$ Millions)	BV/Share Adjusted	BV/Share Unadjusted	Share Price in July 2007	Unregulated Market to Book Ratio	Theoretical Market to Book Value	Market to Book Difference	Excess Value to Un- regulated (\$ Millions)
Core PJM Companies									
Exelon	673.00	11,297	16.79	13.89	82.05	4.89	1.00	3.89	43,922.58
Constellation Energy	181.00	6,055	33.45	27.57	94.21	2.82	1.00	1.82	10,996.71
PSEG	266.00	7,950	29.89	23.98	91.18	3.05	1.00	2.05	16,303.50
PPL	386.00	6,354	16.46	11.62	49.18	2.99	1.00	1.99	12,629.69
Allegheny	166.00	3,014	18.16	10.34	55.87	3.08	1.00	2.08	6,260.17
Total/Average		34,671			124,783	3.60			90,112.65

V.

FINANCIAL ANALYSIS OF MERCHANT COMPANIES

26. My analysis shows that companies selling into PJM which have not had the advantage of legacy ratepayer financing of generation assets have achieved financial results that during some periods could only be described as dismal. The four largest merchant sellers into PJM are Midwest Generation, Mirant, Reliant and NRG. Two of these companies, NRG and Mirant, have declared bankruptcy; all four companies have had their bonds rated as junk by credit rating agencies. The uneven financial performance of these merchant companies demonstrates that they have been unable to successfully compete with companies which have existing generation plants originally supported by ratepayers. Further, the financial performance of the PJM merchant companies in the 2001-2004 time period is similar to the performance of many other merchant companies around the world. This volatile performance has increased required returns for new equity investment in generating plants and it has made the underwriting requirements for new debt associated with new generation more stringent. These debt and equity requirements have in turn increased the cost of new entry into organized RTO markets. The investor returns earned by merchant companies calls into question the assumption that in the long run, new entry can discipline prices in RTO markets to competitive levels.

27. Table 8 presents the unadjusted return on equity realized by the merchant PJM companies. For two of the companies – Mirant and Reliant – I show returns earned by both the holding company in aggregate and the subsidiary company that sells power into PJM. In the case of Midwest Generation, I do not present holding company data because Edison International who owns Midwest Generation also owns Southern California

Edison and many other investments not related to merchant power generation. For NRG, I present only holding company data because the company does not separately report detailed financial data of plants operating in PJM. I have not computed holding period returns realized by the merchant companies because the bankruptcies and lack trading mean that the long-term data is not available. Table 8 shows the negative income realized by all of the merchant companies, particularly in the four year period from 2002 to 2005. The high returns earned by NRG in 2003 and Mirant in 2006 are affected by the low equity balance after financial distress (returns on equity of above 10% are shaded in the table.)

Table 8						
Unadjusted Return on Equity for PJM Merchant Sellers						
	2001	2002	2003	2004	2005	2006
Reliant Consolidated	19.1%	16.4%	-9.9%	-30.7%	-0.7%	-8.6%
Reliant Energy Mid-Atlantic Holdings	38.7%	-0.1%	-2.3%	-4.5%	-31.9%	69.5%
Mirant Corporation	14.6%	5.0%	-1753.6%	-160.6%	-413.3%	72.4%
Mirant Mid-Atlantic	5.7%	5.8%	-14.5%	3.7%	0.2%	29.0%
Midwest Generation	-19.3%	-3.4%	-174.5%	-5.8%	12.3%	10.1%
NRG Energy	14.34%	-449.64%	319.06%	7.25%	2.60%	10.09%

28. In order to reduce the distortions in return caused by bankruptcy and high debt leverage realized after incurring losses, I present trends in the return on invested capital for the merchant companies on Table 9. This table shows that returns have generally been below 7% even though some returns have recently increased due to higher pricing of electricity relative to the price of natural gas and other fuels. The low returns earned during the 2002-2005 period shown in Table 9 were not sufficient to cover interest costs and resulted in financial distress for the industry. Despite the poor historic performance, prospects for the merchant companies have improved in part from capacity prices

resulting from RPM. For example Mirant stated that “...the most recent round of RPM, the capacity auction, [resulted in]...a tremendous increase in pricing.”¹⁰

Table 9						
Return on Invested Capital for PJM Merchant Sellers						
	2001	2002	2003	2004	2005	2006
Reliant Consolidated	8.95%	10.48%	1.91%	3.41%	-0.19%	-0.88%
Reliant Energy Mid-Atlantic Holdings	15.95%	4.39%	3.73%	1.80%	-4.45%	4.71%
Mirant Corporation	11.93%	4.99%	2.08%	1.17%	-2.51%	15.78%
Mirant Mid-Atlantic	10.78%	8.22%	6.02%	5.33%	3.43%	27.35%
Midwest Generation	1.39%	2.69%	1.72%	1.33%	7.38%	6.06%
NRG Energy	5.29%	2.12%	2.98%	8.41%	5.74%	10.65%

29. The losses experienced by merchant companies in the 2002-2005 period were not limited to the PJM market, but similar experiences have occurred in the rest of the country and throughout the world. In analyzing the financial performance of merchant plants for the Asian Development Bank, I reviewed the financial performance of many generating plants in the U.S. and other countries. I quoted a financial analyst who stated that US private companies which own merchant plants have lost of more than \$100 billion in market capitalization from the inception of markets through 2003.¹¹ I also described how the financial failures merchant plants have lead to a consensus that future financing of merchant plants will be far more conservative then it had been theretofore. Four examples of commentary by financiers after the financial distress of merchant companies are quoted in the ADB report include:

- “While competitive power fundamentals may never point to great business, firms in other industries can survive under similar circumstances and may even do well,

¹⁰ Mirant 2007 second quarter conference call transcript, August 9, 2007, page 3.

¹¹ Silverstein, Ken, Re-Fueling the Merchant Energy Sector, February, 2004

but they do so under much more conservatively financed structures than many energy merchants first envisioned,”

- Banks are “now highly reluctant to take merchant risk of any kind... and they are skeptical about long-term purchase or tolling contracts that in any are considered to be out of the money.”
- “Merchant risk is usually BB risk – junk bond status -- at most unless it benefits from a very conservative finance structure.”
- “Merchants will have to redesign their business models. Those players that have 80-90 percent of their capital in the form of debt won't survive. The ratings agencies have said that such debt-to-capital ratios must be in the 50-50 range to earn investment grade status so that the cost of borrowing is reasonable.”¹²

VI. CONCLUSION

30. The principal conclusion from my financial analysis of PJM sellers is that the compilation of profit statistics are not at all consistent with the notion that RTO organized markets are efficient. First, the supra-competitive profits realized by sellers with previously regulated plants does not result from superior investment decisions and efficient cost management which would be expected in a competitive market, but instead from management of legislative and regulatory processes. Second, the profits realized by companies that sell the most power into PJM and that own power plants originally constructed and supported through regulated rates imply consumers are paying far more

under the organized RTO structure than they would be paying under a cost-of-service regulatory regime, which is at odds with the notion that efficient and competitive markets should reduce consumer prices. Third, the financial performance of merchant companies in PJM and all over the world means new entry is more expensive and difficult, further increasing consumer costs and enhancing the position of favored suppliers, another result which would not be expected in an efficient competitive market.

31. Efficient competitive markets can of course result in high earned returns for efficient companies and bankruptcies for poorly run firms. In the case of electricity generation, economic efficiency is realized from making good decisions about the amount and the type of new capacity to build as well as the cost of making the investment, the cost of operating the plant and the on-going availability of the plant. The supra-competitive profits realized by the five PJM Companies did not come either from foresighted investment decisions or from careful cost management. Decisions on the type and amount of capacity as well as the cost of building the plants were obviously made long before RTO markets existed. Furthermore, there is no clear evidence that plants owned by PJM Companies are operated more efficiently than those still subject to cost-of-service regulation. While data availability for the operating costs of plants in RTO markets is limited (unlike plants that continue to be regulated on a cost-of-service basis) information from PJM investor analyst reports confirm that operating efficiencies

(footnote continued from previous page)

¹² Asian Development Bank, “Development of a Framework for Financing Merchant Power Plants in Developing Countries”, March 15, 2004, page 65.

have not clearly occurred.¹³ Exelon investor analyst reports include graphs showing that some of the lowest nuclear capacity factors in the U.S. and the longest re-fueling outages have been experienced by companies selling into RTO markets.¹⁴ Similar presentations by PSEG and Allegheny illustrate a mixed picture of operating efficiencies after the implementation of organized RTO markets.

32. One of the underlying principles of cost-of-service regulation is that prices should mimic the prices experienced in competitive markets over the lifetime of a plant. Indeed the whole idea of organized RTO markets is that they should produce beneficial results for consumers. While the focus of my analysis is on profitability from an investor perspective, a truism that all revenues earned by companies ultimately come from bills paid by consumers implies that the measured benefits to investors are mirrored by costs to consumers. The dollar returns to investors for the five PJM sellers with ratepayer-financed plants imply that prices resulting from the organized RTO markets are certainly higher than they would be under cost-of-service regulation. Investor returns to these companies are not the result of efficient management, but rather have come about because the firms have successfully managed a legislative and regulatory process. In this structure, stable and assured cash flows over a transition period provide the base for a subsequent period of increased profits through sales into RTO organized markets, once rate caps and fixed price contracts expire. Since the net investment associated with older baseload plants owned by the five PJM companies is diminished through depreciation,

¹³ In testifying on the cost of a clean coal plant I found that the cost of operating and maintaining plants other than fuel is about 15% of the total cost of a plant meaning that even if efficiencies did occur, they would not have a large effect on the overall market.

¹⁴ Exelon Presentation at Deutsche Bank Energy and Utilities Conference, May 30, 2007, page 35-36.

the plants would have a relatively low valuation as part of rate base were they subject to cost-of-service regulation. (Most of the cash flow generated by an asset under cost-of-service regulation occurs in the early years of the plant.) The profits are therefore realized simply from prices not declining as they would under ratebase regulation.

33. One important characteristic of efficient competitive markets is that new entry should not be limited or prohibitively expensive. The volatile financial performance of merchant companies does not prove that market entry cannot occur in the future nor that companies cannot in theory enter a market and earn reasonable profits. Poor performance of merchant companies could have been the result of managers chronically overpaying for existing plants or writing bad contracts. Alternatively, the merchant company investors may not have understood the effect of surplus capacity on power prices. However, whatever the reason for historic performance of merchant companies, the implications of their volatile financial performance for future investment are clear. Equity investors will require higher returns and lenders will more conservative in their assessments. Market entry will be more expensive thereby constraining one of the most basic precepts of a competitive market.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Wholesale Competition in Regions)
with Organized Electric Markets)

Docket Nos. RM07-19-000
and AD07-7-000

DECLARATION OF EDWARD BODMER

I, EDWARD BODMER, declare that the foregoing Affidavit is true and correct to the best of my knowledge and belief. In witness whereof, I have hereunto set my hand on this _____ day of _____, 2007.

Edward Bodmer
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630-886-2754
edbodmer@aol.com

Sworn to and subscribed before me this _____ day of _____, 2007.

[SEAL]

Notary Public

My commission expires: _____

Exhibit EB-1

BIOGRAPHY

Edward Bodmer

I received a B.S. degree in Finance with highest honors from the University of Illinois in 1979 and an MBA degree with honors from the University of Chicago in 1986. My regulatory experience began with my employment on the Accounting and Finance Staff of the Illinois Commerce Commission and has encompassed numerous assignments on regulatory issues as a consultant. In a past position as a Vice President at the First National Bank of Chicago, I managed the credit analysis of energy loans, which included evaluation of electric and gas utility company transactions. In that position I also directed a number of energy-related financial advice projects for bank clients.

Since 1989, I have developed a consulting practice in the electric utility industry that has involved assignments for financial institutions, utility companies, and government agencies. My projects have addressed a variety of topics, including industry restructuring, valuation, forecasting, pricing, resource planning, and performance evaluation. As part of my consulting practice, I have testified before regulatory commissions in Illinois, California, Indiana, Kansas, Michigan, Maine, Minnesota, Vermont, and Connecticut on a wide range of subjects.

Another component of my practice has involved teaching professional courses on valuation, project finance, credit analysis, financial modeling, and corporate finance. I have designed and taught courses in South America, Asia, Australia, Western Europe, Eastern Europe, the Middle East, and Africa as well as in the U.S. My work has included workshops open to the public which I prepared for firms that market courses, including Infocast, Euromoney, Terrapin, the Amsterdam Institute of Finance, the Financial

Training Company, the New York Institute of Finance and others. In addition, I have taught many customized in-house courses tailored to individual clients. My in-house clients have included HSBC (Hong Kong), ABN Amaro (Sao Paolo), Citibank (Tokyo), Development Bank Singapore, ING Direct (Hong Kong), Development Bank Asia (Shanghai), CIMB (Malaysia), Lindlakers (London), Saudi Aramco, the Korean Power Exchange, UAE Offsets Group and others.

EXPERT TESTIMONY

1. On Behalf of the Staff of the Maine Public Utilities Commission, Docket No. 2006-661, 2006, May 2007. Construction of alternative residential, commercial and industrial sales forecast for Bangor Hydro Electric Company.
2. On Behalf of Exelsior Energy, OAH Docket No. 12-2500-17260-2, October and November 2006. Rebuttal Testimony and Sur-rebuttal testimony addressing the risks, costs and benefits of constructing an Integrated Gas Fired Combined Cycle Plant in Minnesota.
3. On Behalf of the Staff of the Maine Public Utilities Commission, Docket 2005-729, April 2006. Analysis of sales forecast and historical productivity of Central Maine Power in the context of proposed extension to Alternative Regulatory Plan.
4. On Behalf of the Citizens Utilities Board, Docket 2006-0070, April and June, 2006 before the Illinois Commerce Commission. Testimony on the cost of capital of Ameren.
5. On Behalf of the City of Chicago, Cook County States Attorney and the Citizens Utilities Board, Docket 2005-0597, December, 2005 and April 2006. before the Illinois Commerce Commission. Direct and Rebuttal testimony on the cost of capital of Commonwealth Edison Company.
6. On Behalf of the Byron Illinois School District on the Valuation of Nuclear Power Plants involving the appropriate cost of capital and the forward price of electricity.
7. On Behalf of the Chicago Building Owners and Managers Association, Docket 2002-0479, September, 2002 before the Illinois Commerce Commission. Testimony on option analysis related to provider of last resort obligations and re-structure of tariffs for large electricity customers.
8. On Behalf of the Staff of the Maine Public Utilities Commission, Docket 2001-239, 2001. Evaluation of the end use and econometric sales forecast developed by Central Maine Power and preparation of an alternative sales forecast.

9. On Behalf of the Staff of the Maine Public Utilities Commission, Docket 2001- 240, 2001. Evaluation of the sales forecast developed by Bangor Hydro Electric Company and preparation of an alternative sales forecast.
10. On Behalf of the City of Chicago before the Illinois Commerce Commission, 2001, Docket No. 01-0423. Direct and rebuttal testimony on the embedded and marginal cost study of Commonwealth Edison Company and the reasonableness of significant distribution expenditures made by the company.
11. On Behalf of Detroit Edison Company, before the Michigan Public Service Commission, Case No. U-12369. Rebuttal testimony on the valuation of customer options to switch between regulated utility service and competitive service.
12. On behalf of the City of Topeka before the Kansas Corporation Commission, 2001, Docket No. 01-WSRE-436-RTS. Direct, rebuttal and cross-answering testimony on regional rate parity, treatment of a new combined cycle plant, and new combustion turbine plants of Western Resources Company.
13. On behalf of Industrial Customers before the Illinois Commerce Commission, Docket No. 00-0361. Direct and rebuttal testimony on the appropriate treatment of decommissioning cost after transfer of nuclear plants to an unregulated subsidiary of Commonwealth Edison Company.
14. On behalf of the Staff of the Maine Public Utilities Commission, 2000. Docket No. 99-666. Bench Analysis on development of productivity factors using comparative industry data and regression analysis and implementation of the alternative rate plan proposed by Central Maine Power Company.
15. On behalf of competitive metering providers before the Illinois Commerce Commission, 2000. Docket No. 99-0117. Direct and rebuttal testimony on the appropriate pricing of credits for customers receiving competitive metering services from non-utility companies.
16. On behalf of the City of Chicago before the Illinois Commerce Commission, 1999. Docket 99-0117. Direct and rebuttal testimony on the marginal cost of distribution service, the appropriate level of market price credits and rate design for government facilities.
17. On behalf of Competitive Suppliers before the Illinois Commerce Commission, 1999. Docket No. 98-0680. Testimony on the economics of unbundling billing and metering services for utilities in Illinois and the benefits of uniform tariffs.
18. On behalf of the Maine Public Utilities Commission, 1998. Docket 98-058. Bench analysis on the market power implications and the financial benefits to customers of the Divestiture Plans of Central Maine Power Company, Bangor Hydro Electric Company and Maine Public Service Company.
19. On behalf of the Massachusetts Municipal Wholesale Electric Company, 1997. Deposition of forward pricing and valuation of nuclear plant entitlements held by MMWEC.

20. On behalf of the Minnesota Department of Public Service, 1996. Docket E.GOO2/PA-95-500. Direct and rebuttal testimony on the reasonableness of cost savings estimated in the proposed merger of Wisconsin Electric Power and Northern States Power Company.
21. On behalf of Indianapolis Power and Light Company before the Indiana Public Utilities Commission, Cause No. 39938. Direct and rebuttal testimony on the measurement of the relative productivity of utility companies using regression analysis and cross-sectional cost data for distribution, transmission and generation.
22. On behalf of the San Diego Gas and Electric Company before the California Public Utilities Commission, 1995, Case A 93-12-029. Rebuttal testimony on the statistical analysis of rate comparisons to measure the relative efficiency of utility companies.
23. On behalf of the City of Chicago before the Illinois Commerce Commission, 1994. Docket 94-0065. Direct and rebuttal testimony of marginal cost of service and the appropriate rate design on an intra-class basis for residential customers.
24. On behalf of the City of Chicago before the Illinois Commerce Commission, 1993. Docket 92-0303. Direct and rebuttal testimony on the regional cost of service in the City of Chicago and the Suburban communities.
25. On behalf of the Governor of Illinois, the Cook County States Attorney and the Illinois Attorney General before the Illinois Commerce Commission, 1988. Docket 87-0043. Direct and rebuttal testimony on the cost and benefits of a proposal by Commonwealth Edison Company to spin-off three nuclear plants to an subsidiary company.
26. On behalf of the Connecticut Attorney General before the Connecticut Department of Utility Control, 1984. Testimony of the prudence of Northeast Utilities in delaying construction of a nuclear plant.
27. On behalf of the Illinois Commerce Commission Staff before the Illinois Commerce Commission, Docket No 83-0309. Testimony on the appropriate treatment of deferred taxes after changes in the income tax rate.
28. On behalf of the Illinois Commerce Commission Staff before the Illinois Commerce Commission, Docket No 81-0026. Testimony on the interim and permanent phase of a rate increase proposed by Commonwealth Edison company addressing financial viability, capital structure and phase-in issues.
29. On behalf of the Illinois Commerce Commission Staff before the Illinois Commerce Commission, Docket No 81-0324. Testimony on the appropriate capital structure for Commonwealth Edison company from a ratepayer perspective.
30. On behalf of the Illinois Commerce Commission Staff before the Illinois Commerce Commission, Docket No 80-0044. Testimony on the cost of common equity capital using the discounted cash flow method for Union Electric Company.

31. On behalf of the Illinois Commerce Commission Staff before the Illinois Commerce Commission, Docket No 80-0167. Testimony on the Application of a variable rate of return mode to apply to Construction Work in Progress for Illinois Power Company.